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SONY AZ1-L SERVICE MANUAL

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HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL

AZ1-L *Chassis*

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Version	Date	Subject
1.0	2/2010	No revisions or updates

LCD Digital Color TV

SONY®

9-888-297-01

Self Diagnosis

SERVICE MANUAL

AZ1-L *Chassis*

LCD Digital Color TV

SONY®

9-888-297-01

MODEL LIST

MODEL	COMMANDER	DESTINATION
KDL-32EX707	*RM-YD047*	*COLUMBIA*
KDL-40EX707	*RM-YD047*	*COLUMBIA*

MODEL	COMMANDER	DESTINATION
KDL-46EX707	*RM-YD047*	*COLUMBIA*
KDL-52EX707	*RM-YD047*	*COLUMBIA*

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SPECIFICATIONS

Sistema	
Sistema de TV	Análogo: NTSC 3.58 Digital: DVB-T
Cobertura de canales	VHF: 2-13, UHF: 14-69 CATV (Análogo): 1-125
Sistema del panel	Panel LCD (pantalla de cristal líquido)
Salida de bocinas	10 W + 10 W
Tomas de entrada/salida	
CABLE/ANTENNA (Cable/Antena)	Terminal externo de 75 ohms para entrada de señal de radiofrecuencia
VIDEO IN 1/2/3 (Entrada de video 1/2/3)	VIDEO / AUDIO
COMPONENT IN 1/2 (Entrada de componente 1/2)	YPBPR (video componente) Formato de señal: 480i, 480p, 720p, 1080i, 1080p AUDIO
HDMI IN 1/2/3/4 (Entrada HDMI 1/2/3/4)	HDMI: Video: 480i, 480p, 720p, 1080i, 1080p, 1080/24p Audio: PCM lineal de dos canales 32; 44,1 y 48 kHz, 16, 20 y 24 bits, Dolby Digital AUDIO (HDMI IN 4)
AUDIO OUT (Salida de audio)	500 mVrms (típico)
AURICULAR	Minitoma estéreo
DIGITAL AUDIO OUT (OPTICAL) (Salida de audio digital óptica)	Señal de audio óptica digital PCM/Dolby Digital
PC IN (Entrada de PC)	Subminiatura D de 15 contactos, RGB analógico
PC/HDMI 4 AUDIO IN (Entrada de audio de PC/HDMI 4)	Minitoma estéreo
LAN	Conector 10BASE-T/100BASE-TX (La velocidad de la conexión podría variar en función del entorno de red. No se garantizan la tasa de comunicación ni la calidad de comunicación 10BASE-T/100BASE-TX para este TV.)*
USB/DLNA	Consulte el i-Manual para el formato compatible.

* Para conexiones LAN, utilice un cable 10BASE-T/100BASE-TX de categoría 7 (no se suministra).

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Macintosh es una marca comercial de Apple Inc., registrada en EE. UU. y otros países.

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Nº de patente de EE. UU. 6.816.141

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	52EX707	46EX707	40EX707	32EX707
Alimentación y otras especificaciones				
Requisitos de alimentación	110-240 V ca, 50/60 Hz			
Consumo energético en uso	142	125 W	107 W	91 W
en DAM*1	15 W (Se puede oír un ruido durante la descarga pero es normal.)			
en espera	Menos de 0,23 W		Menos de 0,2 W	
Tamaño de pantalla (cm) (medido diagonalmente) (pulgadas)	132,2 52	116,8 46	101.6 40	80,0 31,5 (32 clase)
Resolución del monitor	1.920 puntos (horizontal) × 1.080 líneas (vertical)			
Bocina (mm) Gama completa con parlantes (2)	34 × 160			
Dimensiones con soporte (mm)	1.252 x 805 x 350	1.118 x 730 x 280	985 x 655 x 280	811 × 539 × 250
sin soporte (mm)	1.252 x 775 x 65	1.118 x 698 x 65	985 x 623 x 64	811 x 507 x 65
patrón de orificios de montaje mural (mm)	300 × 300			200 × 200
tamaño de tornillos de montaje mural (mm)	M6 (longitud: consulte el diagrama de la página 15.)			
Peso con soporte (kg)	27.0	21.3	17.8	12.7
sin soporte (kg)	22.7	18.4	14.9	10.7
Accesorios suministrados	Cable de alimentacion de ca (1)/Soporte de sobremesa (1)*3/Cubierta posterior del soporte (1)*4/ Como fijar tornillos para el soporte de sobremesa (M5x16)(4) (KDL-32/40EX707 Only)/ Control remoto (1)*5/Pilas de tamano AAA (2)			
Accesorios opcionales	Cables de conexión / Kit de correa de soporte			
Soporte de montaje mural*2	SU-WL500			

*1 El modo de adquisición de descarga (DAM) se utiliza para actualizaciones de software.
*2 En algunas regiones o países, es posible que el soporte de montaje para pared (SU-WL500) no esté disponible.
*3 Los modelos 32" y 40" modelo requieren montaje.
Consulte el otro folleto para ensamblar el soporte.
*4 La cubierta posterior del soporte se encuentra sujectada al soporte de sobremesa (KDL-32EX707/40EX707 Only)
*5 Consulte el nombre del modelo impreso en el control remoto.

- La disponibilidad de los accesorios opcionales dependerá de las existencias.
- El diseño y las especificaciones están sujetos a cambios sin previo aviso.

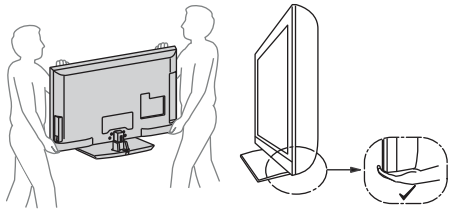
WARNINGS AND CAUTIONS

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

CARRYING THE TV

- Carry the TV with the adequate number of people; larger size TVs require two or more people.
- Correct hand placement while carrying the TV is very important for safety and to avoid damage.



WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the AC power line.

⚠ SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ⚠ mark on the exploded views are critical for safe operation.
Replace all components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. It is essential that all critical parts be replaced only with the part number specified in this manual to prevent electric shock, fire, or other hazard.
Circuit adjustments that are critical for safe operation are identified in this manual.
Follow these procedures whenever critical components are replaced or improper operation is suspected.

NOTE: Do not modify the original design without obtaining written permission from the manufacturer or you will void the original parts and labor guarantee.

SAFETY-RELATED WARNING

USE CAUTION WHEN HANDLING THE LCD PANEL

When repairing the LCD panel, be sure you are grounded by using a wrist band.

When installing the LCD panel on a wall, the LCD panel must be secured using the 4 mounting holes on the rear cover.

1) Do not press on the panel or frame edge to avoid the risk of electric shock.
2) Do not scratch or press on the panel with any sharp objects.
3) Do not leave the module in high temperatures or in areas of high humidity for an extended period of time.
4) Do not expose the LCD panel to direct sunlight.
5) Avoid contact with water. It may cause a short circuit within the module.
6) Disconnect the AC power when replacing the inverter circuit.
   (High voltage occurs at the inverter circuit at 650Vrms.)
7) Always clean the LCD panel with a soft cloth material.
8) Use care when handling the wires or connectors of the inverter circuit. Damaging the wires may cause a short.
9) Protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

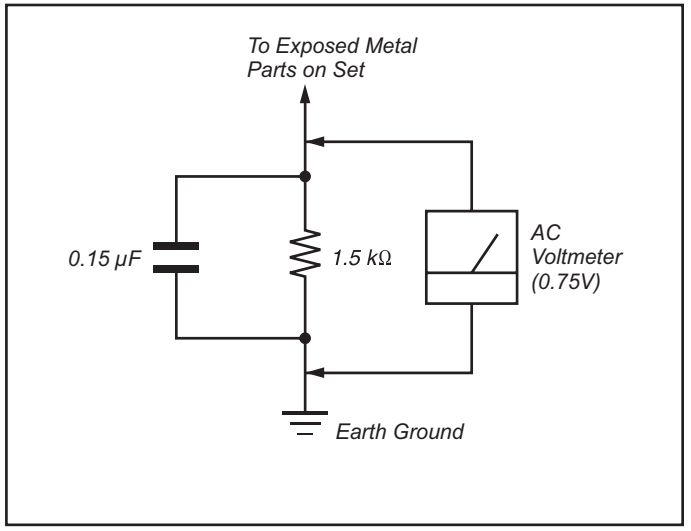


Figure A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA(500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.

2. A battery-operated AC milliampmeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale.

   The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground.

If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60-to 100-watt trouble-light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

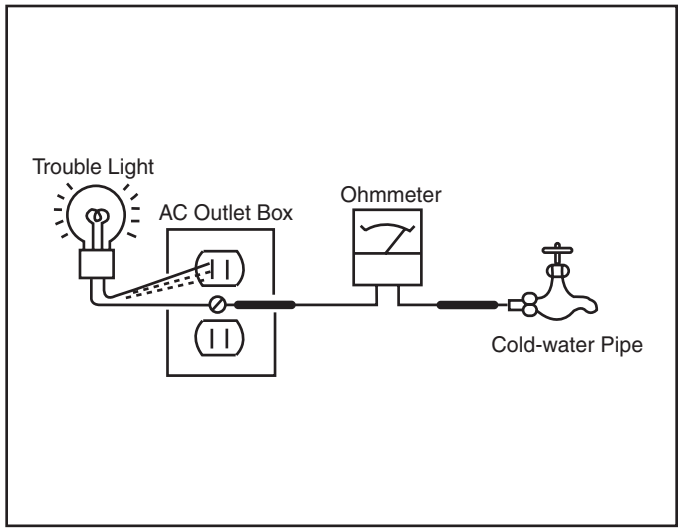


Figure B. Checking for earth ground.

SELF DIAGNOSIS FUNCTIONS

Self Diagnosis Supported model

SELF DIAGNOSIS FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

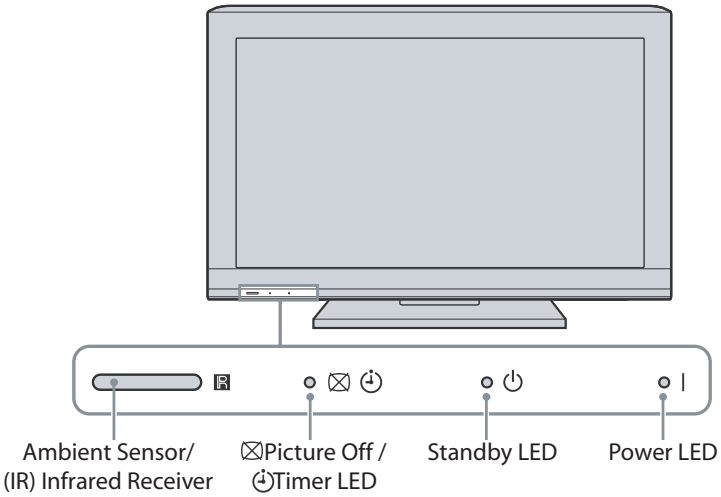
DIAGNOSTIC TEST INDICATORS

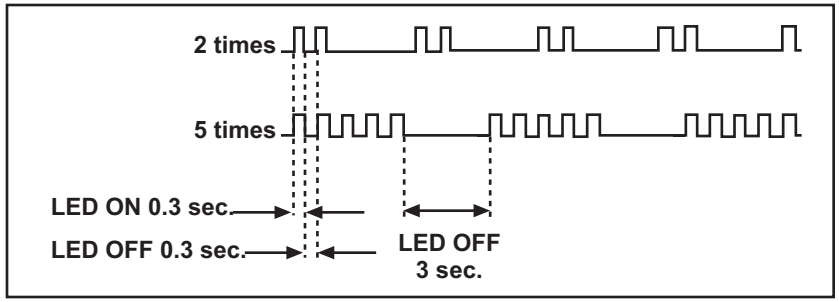
When an error occurs, the STANDBY LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.
Result for all of the following diagnostic items are displayed on screen.

If the screen displays a "0", no error has occurred .

Diagnostic Item	Diagnostic Item Description	Number of times Standby LED blinks	Possible Location
RGB_SEN	RGB Sensor ACK Error	NA	NA
MAIN_POWER	Main Power Error	2	GE3A (Power) Board (KDL-32EX707/40EX707 Only) GE2B (Power) Board (KDL-46EX707/52EX707 Only) BAL Board
DC_ALERT DTT_WDT AUD_PROT	DC Alert DTT Error Audio Error Detection	3	BAL Board GE3A (Power) Board (KDL-32EX707/40EX707 Only) GE2B (Power) Board (KDL-46EX707/52EX707 Only)
BALANCER	Panel Balancer Error	4	BAL Board
TCON ERR HFR ERROR P_ID_ERR	TCON Error HFR Error Panel ID NVM Error	5	BAL Board LCD Panel TCON Control MT Board
BACKLITE	Backlight Error	6	BAL Board
TEMP_ERR	Temperature Error	7	BAL Board
FAN_ERR	Fan Error (Not used in these models)		NA

STANDBY LED FLASH COUNT





VIEWING THE SELF CHECK DIAGNOSTIC LIST

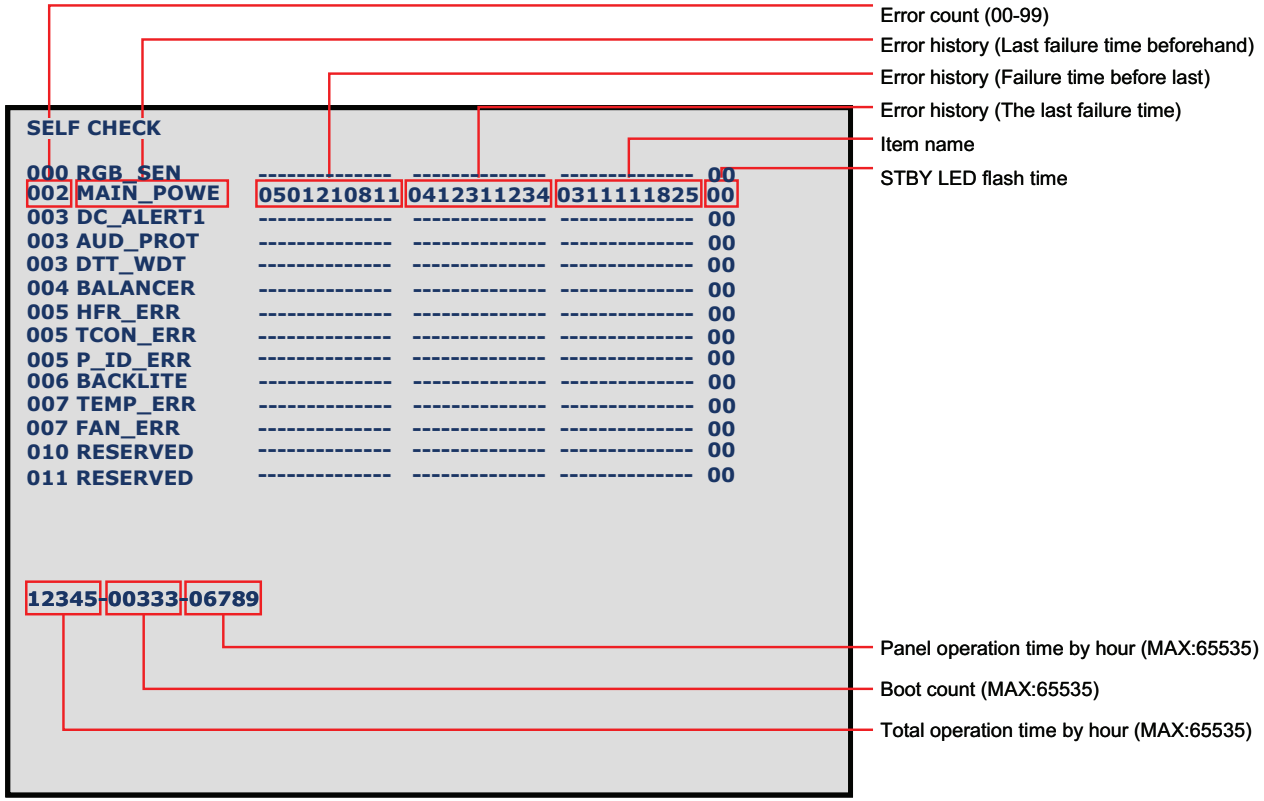
For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurrences of a failure for confirmation on the Self Check diagnostic screen:

1. TV must be in standby mode. (Power off).

2. Press the following buttons on the Remote Commander within a second of each other:

DISPLAY → Channel 5 → Volume - → POWER.

↑ * NOTE: This differs from accessing Service Adjustments Mode (Volume +)


SELF CHECK
000 RGB_SEN ---------- ---------- ---------- 00
002 MAIN_POWE 0501210811 0412311234 0311111825 00
003 DC_ALERT1 ---------- ---------- ---------- 00
003 AUD_PROT ---------- ---------- ---------- 00
003 DTT_WDT ---------- ---------- ---------- 00
004 BALANCER ---------- ---------- ---------- 00
005 HFR_ERR ---------- ---------- ---------- 00
005 TCON_ERR ---------- ---------- ---------- 00
005 P_ID_ERR ---------- ---------- ---------- 00
006 BACKLITE ---------- ---------- ---------- 00
007 TEMP_ERR ---------- ---------- ---------- 00
007 FAN_ERR ---------- ---------- ---------- 00
010 RESERVED ---------- ---------- ---------- 00
011 RESERVED ---------- ---------- ---------- 00
12345-00333-06789
Error count (00-99)
Error history (Last failure time beforehand)
Error history (Failure time before last)
Error history (The last failure time)
Item name
STBY LED flash time
Panel operation time by hour (MAX:65535)
Boot count (MAX:65535)
Total operation time by hour (MAX:65535)

CLEARING THE SELF CHECK DIAGNOSTIC LIST

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen after you have completed the repairs to be sure you have cleared the result display to “0”.

1. Error history and Error count :Press the Channel [8] ➡ Channel [0] .
2. Panel operation time :Press the Channel [7] ➡ Channel [0] .

EXITING THE SELF CHECK DIAGNOSTIC SCREEN

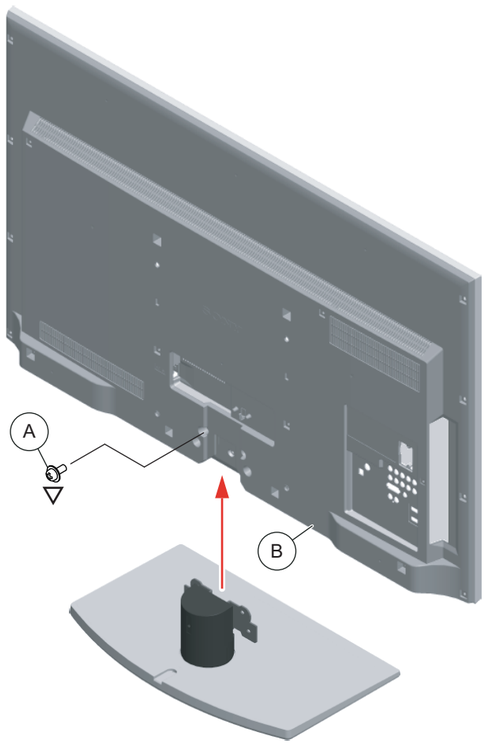
1. To exit the Self Diagnostic screen, turn off the power to the TV by pressing the POWER button on the remote or the POWER button on the TV.

SEC 1. DISASSEMBLY/PART NUMBER INFORMATION

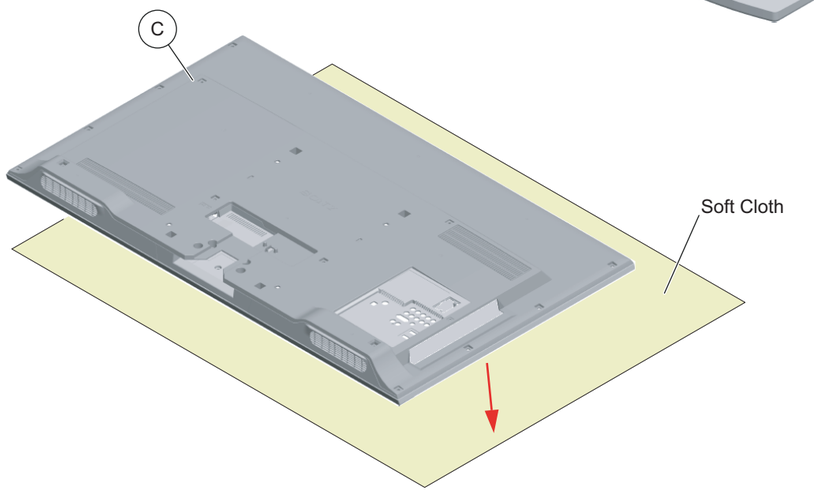
1-1. TABLE-TOP STAND ASSEMBLY REMOVAL

Ⓐ Remove 4 screws from Table-Top Stand Assembly

Ⓑ Lift up TV set to detach from Table-Top Stand Assembly



Ⓒ Gently place the TV set face down onto a soft cloth



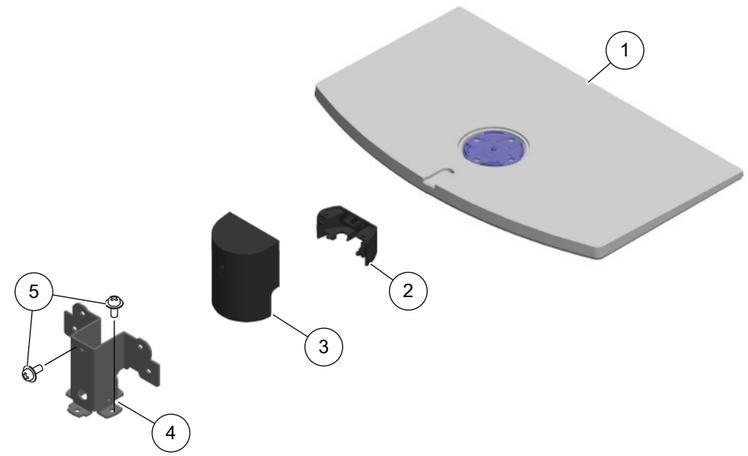
Components not identified by a part number or description are not stocked because they are seldom required for routine service.

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

NOTE: The components identified by a red outline and a 🔒 mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced.
See Appendix A: Encryption Key Components in the back of this manual.



REF. NO.	PART NO.	DESCRIPTION [ASSEMBLY INCLUDES]
1	X-2547-875-1	BASE (M3A) ASSEMBLY (KDL-32EX707 ONLY)
1	X-2547-876-1	BASE (ML3A) ASSEMBLY (KDL-40EX707/46EX707 ONLY)
1	X-2547-877-1	BASE (LL3A) ASSEMBLY (KDL-52EX707 ONLY)
2	4-170-477-01	COVER, NECK (M3A FRONT) (ALL EXCEPT KDL-52EX707)
2	4-170-479-01	COVER, NECK (LL3A FRONT) (KDL-52EX707 ONLY)
3	4-170-485-01	COVER, NECK (M3A REAR) (ALL EXCEPT KDL-52EX707)
3	4-170-487-01	COVER, NECK (LL3A REAR) (KDL-52EX707 ONLY)
4	4-170-449-01	NECK (M3A) (KDL-32EX707 ONLY)
4	4-170-450-01	NECK (ML3A) (KDL-40EX707/46EX707 ONLY)
4	4-170-451-01	NECK (LL3A) (KDL-52EX707 ONLY)
5	2-580-608-01	SCREW, +PSW M5X16 (SCREWS TO ATTACH TABLE-TOP STAND TO LCD TV) For product protection and safety reasons, Sony strongly recommends that you use the screws provided with the TV. CAUTION: These screws cannot be used to secure the TV to the Wall Mount Brackets
▽	2-580-608-01	SCREW, +PSW M5X16

1-2. REAR COVER, AC INLET, SWITCH UNIT AND POWER SWITCH REMOVAL

Ⓐ Remove screws from Rear Cover to detach from Bezel

10 from KDL-32EX707/40EX707/46EX707 Only

12 from KDL-52EX707 Only

Ⓑ Remove screws from Rear Cover to detach from Panel Bracket

2 from KDL-32EX707/40EX707 Only

4 from KDL-46EX707/52EX707 Only

Ⓒ Remove screws from Rear Cover to detach from LCD Panel

3 from KDL-32EX707/40EX707/46EX707 Only

4 from KDL-52EX707 Only

Ⓓ Remove 4 screws from Rear Cover to detach from Vesa Bracket position

Ⓔ Lift Hook Cover to detach from Under Cover

Ⓕ Disconnect AC Inlet from GE3A/GE2B (Power) Boards and detach from Under Cover

Ⓖ Remove screws from Under Cover to detach from Bottom Frame

1 from KDL-32EX707 Only

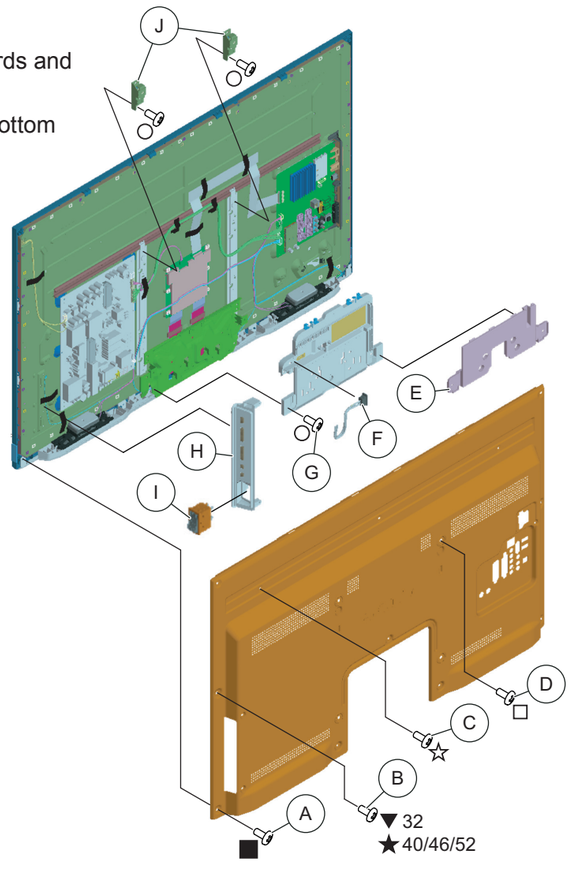
5 from KDL-40EX707/46EX707/52EX707 Only

Ⓗ Lift up Switch Unit and disconnect 1 connector to remove from LCD Panel

Ⓘ Slide out Power Switch and disconnect 1 connector to remove from Switch unit

Ⓙ Remove 2 screws to detach Vesa Brackets from Panel

NOTE: The Vesa Brackets are not included with the Panel and must be reattached to the replacement Panel



NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

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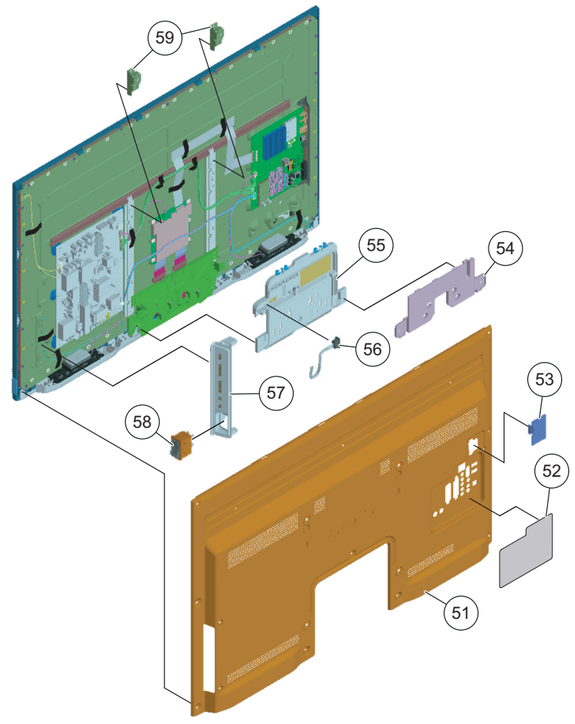
See Appendix A: Encryption Key Components in the back of this manual.



REF. NO.	PART NO.	DESCRIPTION [ASSEMBLY INCLUDES]
51	X-2541-871-2	REAR COVER (32) ASSEMBLY (KDL-32EX707 ONLY)
51	X-2541-872-2	REAR COVER (40) ASSEMBLY (KDL-40EX707 ONLY)
51	X-2541-883-2	REAR COVER (46) ASSEMBLY (KDL-46EX707 ONLY)
51	X-2541-874-1	REAR COVER (52) ASSEMBLY (KDL-52EX707 ONLY)
52	4-171-318-01	LABEL, REAR TERMINAL
53	3-297-324-02	COVER, ECS
54	4-169-437-01	COVER, HOOK (32) (KDL-32EX707 ONLY)
54	4-171-125-01	COVER, HOOK (40/46) (KDL-40EX707/46EX707 ONLY)
54	4-169-439-01	COVER, HOOK (52) (KDL-52EX707 ONLY)
55	4-169-434-01	COVER, UNDER (32) (KDL-32EX707 ONLY)
55	X-2547-768-1	COVER, UNDER (40/46/52) ASSEMBLY (ALL EXCEPT KDL-32EX707)
⚠ 56	1-842-031-11	AC INLET (2P)
57	1-487-804-11	SWITCH UNIT
58	1-798-309-11	POWER SWITCH
59	4-176-944-01	BRACKET, VESA T (ML)
■	2-580-639-01	SCREW, +BVTP 4X12 TYPE2 IT-3
□	2-580-611-01	SCREW, +PSW M6X16
▼	2-580-600-01	SCREW, +PSW M4X8 (KDL-32EX707 ONLY)
○	4-159-298-01	SCREW, +PSW M4X10
☆	2-580-591-01	SCREW, +PSW M3X5
★	2-580-603-01	SCREW, +PSW M4X16 (KDL-40EX707/46EX70/52EX707 ONLY)

1-3. SPEAKERS AND HLR BOARD REMOVAL

Ⓐ Remove screws from Speaker Bracket Right

1 from KDL-32EX707/40EX707 Only

2 from KDL-46EX707/52EX707 Only

Ⓑ Lift up Speaker Bracket Right to detach from Bezel

Ⓒ Remove screws from Speaker to detach from Speaker Bracket Right

4 from KDL-32EX707 Only

2 from KDL-40EX707/46EX707/52EX707 Only

Ⓓ Remove 2 screws from Bottom Frame to detach from Bezel (KDL-32EX707 Only)

Ⓔ Remove screws from Bottom Frame to detach from LCD Panel

2 from KDL-32EX707 Only

1 from KDL-40EX707/46EX707/52EX707 Only

Ⓕ Remove screws from Speaker Bracket Left

1 from KDL-40EX707 Only

2 from KDL-46EX707/52EX707 Only

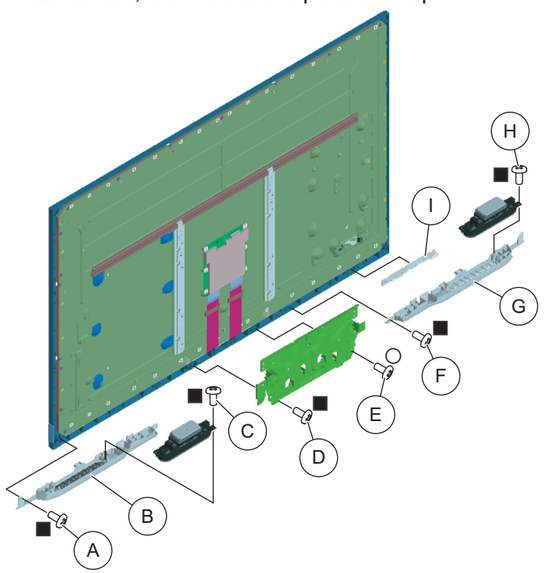
Ⓖ Lift up Speaker Bracket Left to detach from Bezel

Ⓗ Remove screws from Speaker to detach from Speaker Bracket Left

4 from KDL-32EX707 Only

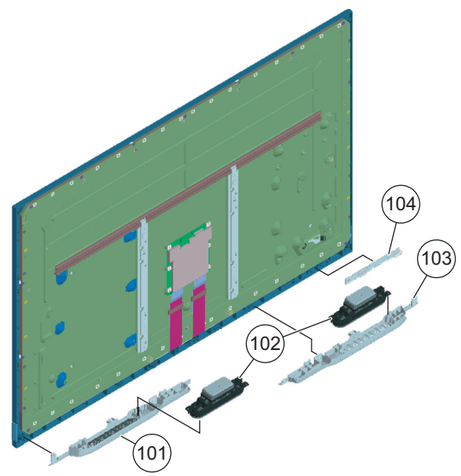
2 from KDL-40EX707/46EX707/52EX707 Only

Ⓘ Disconnect 1 connector from HLR Board, then release clips and lift up to remove from LED Guide



NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

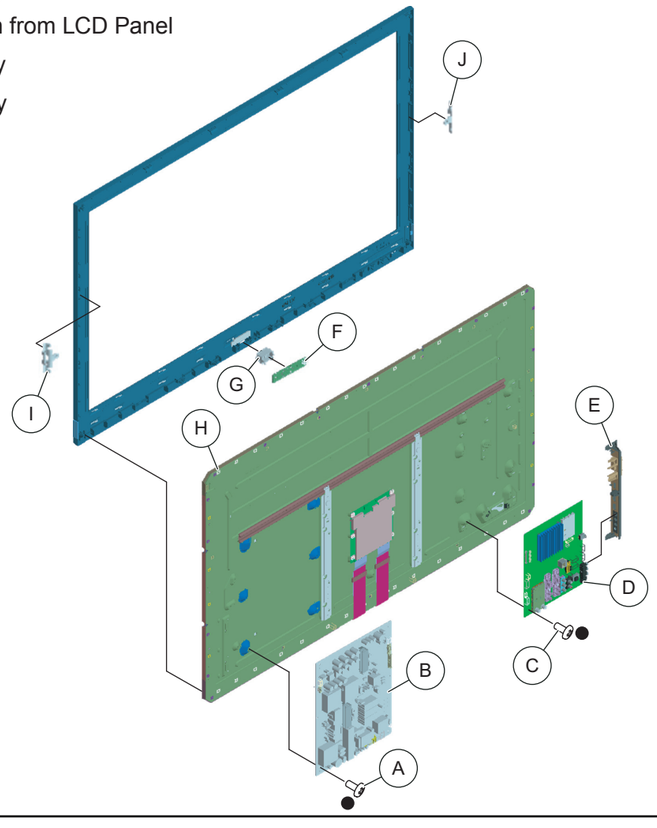
NOTE: The components identified by a red outline and a 🔒 mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced.
See Appendix A: Encryption Key Components in the back of this manual.



REF. NO.	PART NO.	DESCRIPTION [ASSEMBLY INCLUDES]
101	X-2547-771-1	BRACKET, SP (32R) ASSEMBLY (KDL-32EX707 ONLY)
101	X-2547-775-1	BRACKET, SP (40R) ASSEMBLY (KDL-40EX707 ONLY)
101	X-2547-779-1	BRACKET, SP (46R) ASSEMBLY (KDL-46EX707 ONLY)
101	X-2547-785-2	BRACKET, SP (52R) ASSEMBLY (KDL-52EX707 ONLY)
102	1-826-873-41	LOUDSPEAKER (3.4X17.5CM)
103	X-2547-773-1	BRACKET, SP (32L) ASSEMBLY (KDL-32EX707 ONLY)
103	X-2547-777-1	BRACKET, SP (40L) ASSEMBLY (KDL-40EX707 ONLY)
103	X-2547-782-1	BRACKET, SP (46L) ASSEMBLY (KDL-46EX707 ONLY)
103	X-2547-786-2	BRACKET, SP (52L) ASSEMBLY (KDL-52EX707 ONLY)
104	A-1744-405-A	HLR BOARD, MOUNTED
■	2-580-639-01	SCREW, +BVTP 4X12 TYPE2 IT-3

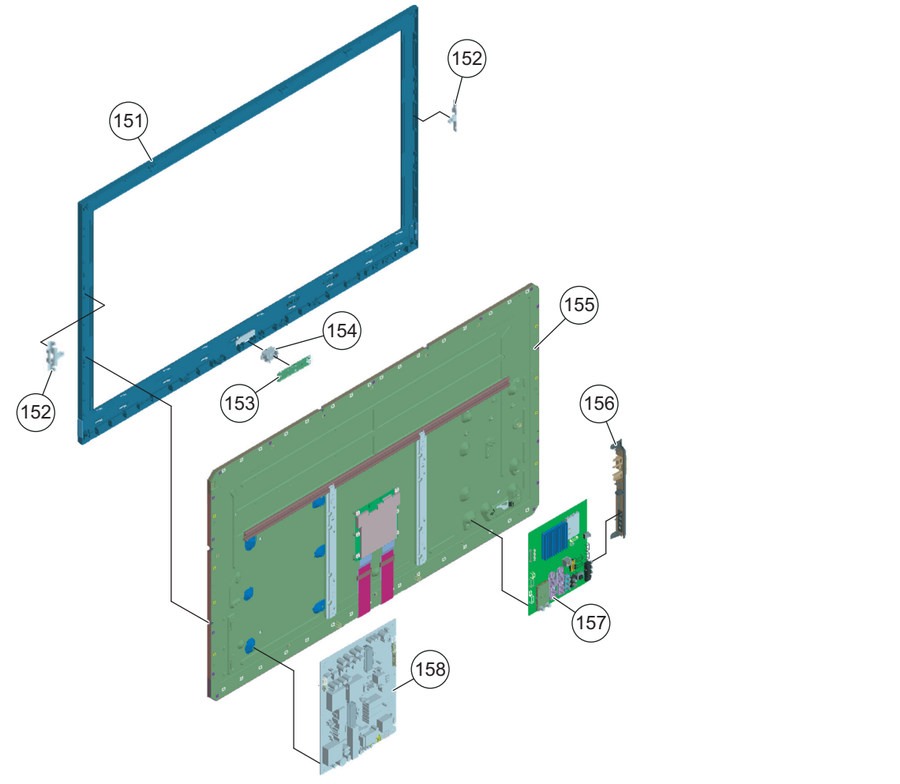
1-4. GE3A/GE2B (POWER) BOARDS, BAL BOARD, HMS2 BOARD AND LCD PANEL REMOVAL

Ⓐ Remove screws from GE3A/GE2B (Power) Boards
4 from GE3A Board (KDL-32EX707/40EX707 Only)
5 from GE2B Board (KDL-46EX707/52EX707 Only)
Ⓑ Disconnect 6 connectors from GE3A/GE2B (Power) Boards
Ⓒ Remove 4 screws from BAL Board
Ⓓ Disconnect 5 connectors from BAL Board
Ⓔ Slide Side Jack Bracket to right-side to remove from BAL Board
Ⓕ Disconnect 1 connector from HMS2 Board and lift up to detach from Bezel
Ⓖ Slide-out Lens to detach from Bezel
Ⓗ Carefully Lift up LCD Panel to remove from Bezel
Ⓘ Lift right-side Panel Bracket to detach from LCD Panel
1 from KDL-32EX707/40EX707 Only
2 from KDL-46EX707/52EX707 Only
Ⓙ Lift left-side Panel Bracket to detach from LCD Panel
1 from KDL-32EX707/40EX707 Only
2 from KDL-46EX707/52EX707 Only



NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

NOTE: The components identified by a red outline and a 🔒 mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced.
See Appendix A: Encryption Key Components in the back of this manual.



REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
151	X-2541-866-1	BEZEL (32) ASSEMBLY (KDL-32EX707 ONLY)	
151	X-2541-867-2	BEZEL (40) ASSEMBLY (KDL-40EX707 ONLY)	
151	X-2541-868-1	BEZEL (46) ASSEMBLY (KDL-46EX707 ONLY)	
151	X-2541-869-1	BEZEL (52) ASSEMBLY (KDL-52EX707 ONLY)	
152	4-169-442-01	BRACKET, PANEL (B) (KDL-32EX707 ONLY)	
152	4-171-196-01	BRACKET, PANEL (A) (ALL EXCEPT KDL-32EX707 ONLY)	
153	A-1736-860-A	HMS2 BOARD, MOUNTED	
154	1-856-068-11	LENS	
155	NA	LCD PANEL	FOR ALL LCD PANEL PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL
156	4-171-117-11	BRACKET, SIDE JACK M	
🔒 157	A-1763-472-A	BAL BOARD, COMPLETE	NOTE: For BAL Board replacement, please refer to section 2-2. Adjustments after Replacing the BAL Board or the LCD Panel. NOTE: Final software is not installed on this BAL Board. Install the update after replacing this board using the instructions provided with the software.
158	1-474-213-11	GE3A (POWER) BOARD, COMPLETE (KDL-32EX707/40EX707 ONLY)	
158	1-474-212-11	GE2B (POWER) BOARD, COMPLETE (KDL-46EX707/52EX707 ONLY)	
●	2-580-592-01	SCREW, +PSW M3X8	

1-5. CLEANING THE LCD PANEL

CAUTION: When cleaning the TV be sure to unplug the power cord to avoid any chance of electric shock.

Clean the cabinet of the TV with a dry soft cloth.

Wipe the LCD screen gently with a soft cloth.

→ Stubborn stains may be removed with a cloth slightly moistened with a solution of mild soap and warm water.

→ If using a chemically pretreated cloth, please follow the instruction provided on the package.

→ Never use strong solvents such as a thinner, alcohol or benzine for cleaning.

→ Periodic vacuuming of the ventilation openings is recommended to ensure to proper ventilation.

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

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1-6. SCREW LEGEND

KDL-32EX707

	P/N	DESCRIPTION	REMARKS	TOTAL
■	2-580-639-01	SCREW, +BVTP 4X12 TYPE2 IT-3	RC(10), BTM FRM to BEZ(2), SPKR to SPKR BRKT-L(4), SPKR to SPKR BRKT-R(4)	20
□	2-580-611-01	SCREW, +PSW M6X16	RC to VESA BRKT(4)	4
▼	2-580-600-01	SCREW, +PSW M4X8	RC to PNL to PNL BRKT(2)	2
▽	2-580-608-01	SCREW, +PSW M5X16	TABLE-TOP STAND(4), NECT to BASE(4)	8
●	2-580-592-01	SCREW, +PSW M3X8	BAL(4), GE3A(4)	8
○	4-159-298-01	SCREW, +PSW M4X10	UC to BTM FRM(1), BTM FRM to PNL(2), VESA BRKT to PNL(2)	5
☆	2-580-591-01	SCREW, +PSW M3X5	RC to PNL(3)	3
★	2-580-603-01	SCREW, +PSW M4X16	NOT IN THIS MODEL	0

KDL-40EX707

	P/N	DESCRIPTION	REMARKS	TOTAL
■	2-580-639-01	SCREW, +BVTP 4X12 TYPE2 IT-3	RC(10), SPKR BRKT-L to BEZ(1), SPKR BRKT-R to BEZ(1), SPKR to SPKR BRKT-L(2), SPKR to SPKR BRKT-R	16
□	2-580-611-01	SCREW, +PSW M6X16	RC to VESA BRKT(4)	4
▼	2-580-600-01	SCREW, +PSW M4X8	NOT IN THIS MODEL	0
▽	2-580-608-01	SCREW, +PSW M5X16	TABLE-TOP STAND(4), NECT to BASE(4)	8
●	2-580-592-01	SCREW, +PSW M3X8	BAL(4), GE3A(4)	8
○	4-159-298-01	SCREW, +PSW M4X10	UC to BTM FRM(5), BTM FRM to PNL(1), VESA BRKT to PNL(2)	8
☆	2-580-591-01	SCREW, +PSW M3X5	RC to PNL(3)	3
★	2-580-603-01	SCREW, +PSW M4X16	RC to PNL to PNL BRKT(2)	2

KDL-46EX707

	P/N	DESCRIPTION	REMARKS	TOTAL
■	2-580-639-01	SCREW, +BVTP 4X12 TYPE2 IT-3	RC(10), SPKR BRKT-L to BEZ(2), SPKR BRKT-R to BEZ(2), SPKR to SPKR BRKT-L(2), SPKR to SPKR BRKT-R	18
□	2-580-611-01	SCREW, +PSW M6X16	RC to VESA BRKT(4)	4
▼	2-580-600-01	SCREW, +PSW M4X8	NOT IN THIS MODEL	0
▽	2-580-608-01	SCREW, +PSW M5X16	TABLE-TOP STAND(4), NECT to BASE(4)	8
●	2-580-592-01	SCREW, +PSW M3X8	BAL(4), GE2B(5)	9
○	4-159-298-01	SCREW, +PSW M4X10	UC to BTM FRM(5), BTM FRM to PNL(1), VESA BRKT to PNL(2)	8
☆	2-580-591-01	SCREW, +PSW M3X5	RC to PNL(3)	3
★	2-580-603-01	SCREW, +PSW M4X16	RC to PNL to PNL BRKT(4)	4

KDL-52EX707

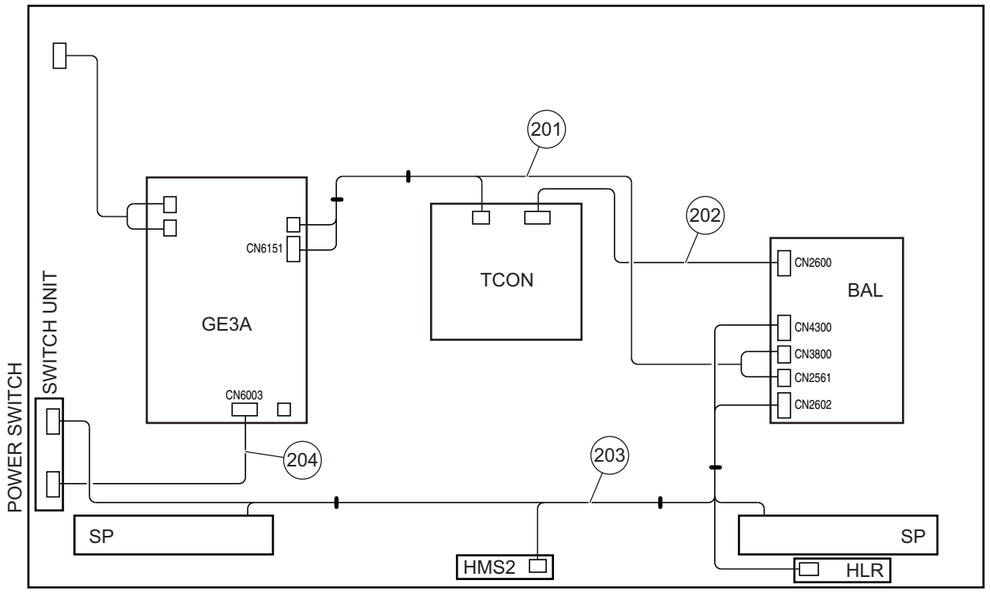
	P/N	DESCRIPTION	REMARKS	TOTAL
■	2-580-639-01	SCREW, +BVTP 4X12 TYPE2 IT-3	RC(12), SPKR BRKT-L to BEZ(2), SPKR BRKT-R to BEZ(2), SPKR to SPKR BRKT-L(2), SPKR to SPKR BRKT-R	20
□	2-580-611-01	SCREW, +PSW M6X16	RC to VESA BRKT(4)	4
▼	2-580-600-01	SCREW, +PSW M4X8	NOT IN THIS MODEL	0
▽	2-580-608-01	SCREW, +PSW M5X16	TABLE-TOP STAND(4), NECT to BASE(4)	8
●	2-580-592-01	SCREW, +PSW M3X8	BAL(4), GE2B(5)	9
○	4-159-298-01	SCREW, +PSW M4X10	UC to BTM FRM(5), BTM FRM to PNL(1), VESA BRKT to PNL(2)	8
☆	2-580-591-01	SCREW, +PSW M3X5	RC to PNL(4)	4
★	2-580-603-01	SCREW, +PSW M4X16	RC to PNL to PNL BRKT(4)	4

1-7. CONNECTORS

NOTE: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

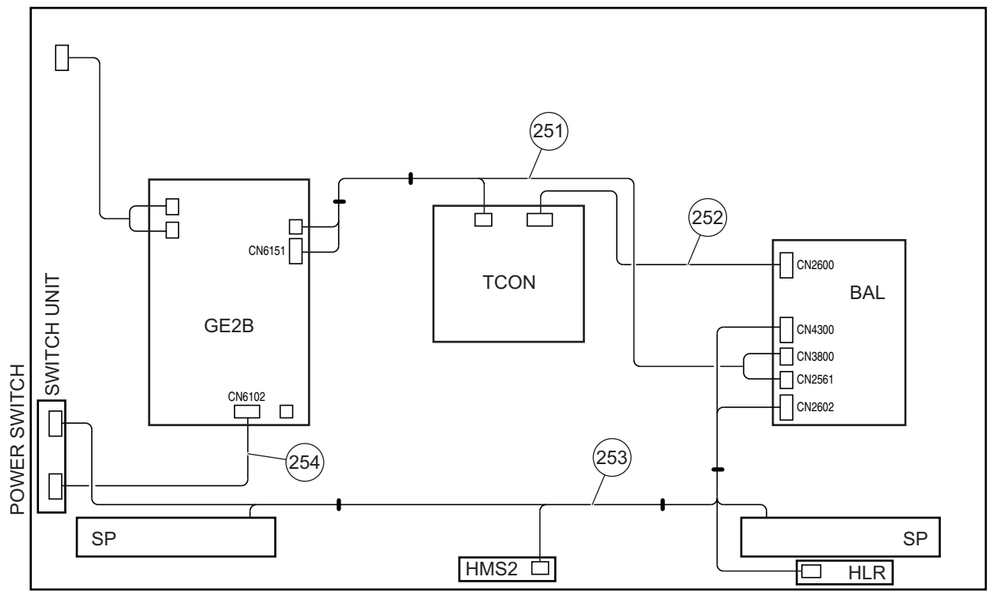
NOTE: The components identified by a red outline and a 🔒 mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced.
See Appendix A: Encryption Key Components in the back of this manual.

1-7-1.KDL-32EX707/40EX707 ONLY



REF. NO.	PART NO.	DESCRIPTION [ASSEMBLY INCLUDES]
* 201	1-910-100-17	HARNESS ASSEMBLY (2) (KDL-32EX707 ONLY)
201	1-910-100-19	HARNESS ASSEMBLY (2) (KDL-40EX707 ONLY)
202	1-837-790-11	(LVDS) LEAD WIRE WITH CONNECTOR (KDL-32EX707 ONLY)
202	1-837-704-11	(LVDS) FLEXIBLE FLAT CABLE 51P (KDL-40EX707 ONLY)
203	1-910-101-36	HARNESS ASSEMBLY (1) (KDL-32EX707 ONLY)
203	1-910-101-37	HARNESS ASSEMBLY (1) (KDL-40EX707 ONLY)
* 204	1-837-663-12	CONNECTOR ASSEMBLY (KDL-32EX707 ONLY)
204	1-837-665-12	CONNECTOR ASSEMBLY (KDL-40EX707 ONLY)

1-7-2.KDL-46EX707/52EX707 ONLY



REF. NO.	PART NO.	DESCRIPTION [ASSEMBLY INCLUDES]
251	1-910-100-21	HARNESS ASSEMBLY (2) (KDL-46EX707 ONLY)
251	1-910-100-23	HARNESS ASSEMBLY (2) (KDL-52EX707 ONLY)
252	1-837-705-11	(LVDS) FLEXIBLE FLAT CABLE 51P (KDL-46EX707 ONLY)
252	1-837-706-11	(LVDS) FLEXIBLE FLAT CABLE 51P (KDL-52EX707 ONLY)
253	1-910-101-38	HARNESS ASSEMBLY (1) (KDL-46EX707 ONLY)
253	1-910-101-39	HARNESS ASSEMBLY (1) (KDL-52EX707 ONLY)
254	1-837-666-12	CONNECTOR ASSEMBLY (KDL-46EX707 ONLY)
254	1-837-667-12	CONNECTOR ASSEMBLY (KDL-52EX707 ONLY)

1-8. ACCESSORIES AND PACKING

	3-299-071-03	FLYER, SAFETY
	4-180-191-32	MANUAL, INSTRUCTION
⚠	1-837-644-12	POWER-SUPPLY CORD SET
*	4-180-033-11	SUPPLEMENT(STAND INSTALLATION)
	X-2348-140-3	SUPPORT BELT KIT

1-9. MISCELLANEOUS

4-182-211-01	GASKET
1-487-194-12	INFRARED RECEIVER SENSOR
4-182-212-01	SPACER (ALL EXCEPT KDL-32EX707)
4-186-417-01	SPACER, PANEL (KDL-46EX707 ONLY)
7-632-452-24	TAPE (NO.303) 18MMX35M YEL
4-187-297-01	WASHER (LCD)
4-188-303-01	WASHER (PWB) (KDL-32EX707/46EX707 ONLY)

1-10. REMOTE COMMANDER

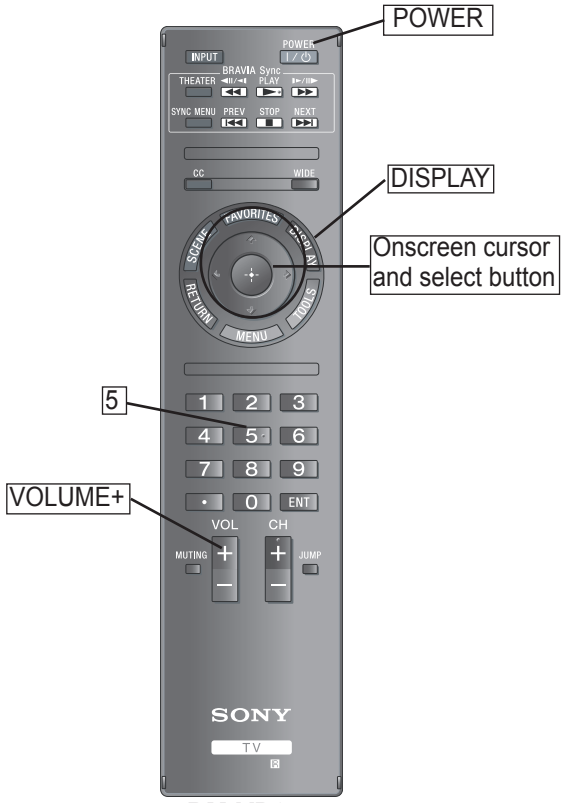
1-487-702-11	REMOTE COMMANDER (RM-YD047)

SEC 2. SERVICE ADJUSTMENTS

2-1. ACCESSING SERVICE ADJUSTMENT MODE

1. TV must be in Standby Mode. (POWER off).
2. Press the following buttons on the Remote Commander within a second of each other:

DISPLAY ➡ Channel 5 ➡ Volume + ➡ POWER



RM-YD047

DIGITAL SERVICE

001 OP
000 VERS ---

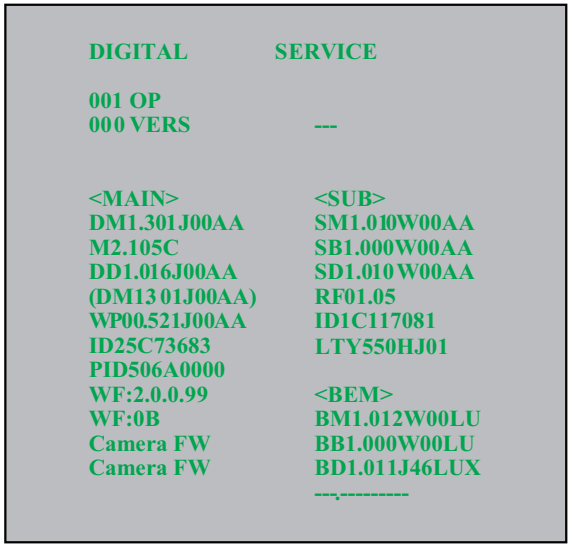
<MAIN>	<SUB>
DM1.301J00AA	SM1.010W00AA
M2.105C	SB1.000W00AA
DD1.016J00AA	SD1.010W00AA
(DM13 01J00AA)	RF01.05
WP00.521J00AA	ID1C117081
ID25C73683	LTY550HJ01
PID506A0000	
WF:2.0.0.99	<BEM>
WF:0B	BM1.012W00LU
Camera FW	BB1.000W00LU
Camera FW	BD1.011J46LUX
	---.---------

Sample Service Menu

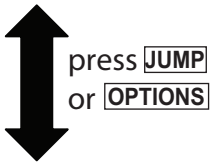
2-1-1. VIEWING THE SERVICE MENUS

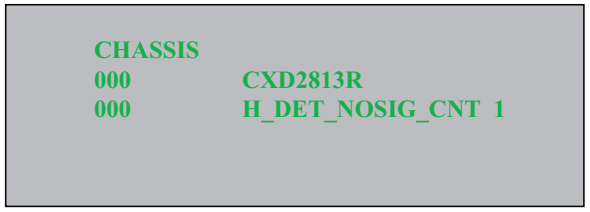
Use the Remote Commander to view the **Digital**, **Chassis** and **Sub** Service Menus and their options.

3. To display the **Service Menu** that contains the Category you want to adjust, press **JUMP** or **OPTIONS** on the Remote Commander.

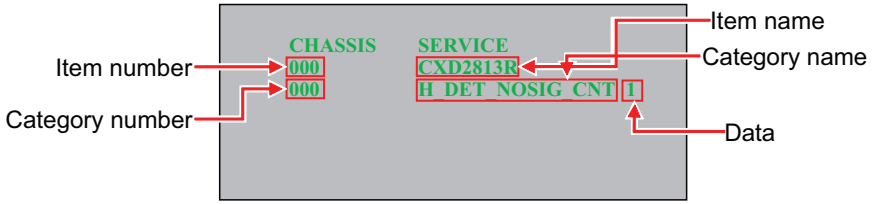


Sample Digital Service Menu





Within each Service Menu are Categories and data information.



Sample Chassis Service Menu

2-1-2. USING THE REMOTE COMMANDER TO VIEW OR CHANGE SERVICE DATA

Use the buttons on the Remote Commander to access the Service Menu items and adjust the Data Values.

DISPLAY → Channel → Volume + → POWER

4. To change the **Category**,
   press 2 to move to the Next Category or
   press 5 to go back to the Previous Category.
   Note: Pressing 2 or 5 only changes the Categories within the Service Menu displayed.
5. To change the **adjustment item**,
   press 1 to move to the Next Item or
   4 to go back to the Previous Item.
6. To change the **Data Value**,
   press 3 to increase the Data Value or
   6 to decrease the Data Value.
7. Press **MUTING** then press 0 to Write the changes.
8. To exit service mode, press **HOME** or turn the TV power off.

2-2. ADJUSTMENTS AFTER REPLACING THE BAL BOARD OR THE LCD PANEL

The following procedures must be completed after replacing the BAL Board or the LCD panel.

- ☑ Update the TV to the latest software version
- ☑ Select the Model
- ☑ Select the Destination
- ☑ Verify model and panel information are correct
- ☑ Reconnect all cables

2-2-1. UPDATING THE SOFTWARE

After replacing the BAL Board or the LCD Panel, you must update the software to the latest version.

Before you begin

- ☑ Disconnect all cables (RF, External input, Ethernet, etc.) from the TV

Instructions for updating the software are included with the software package. After completing the software update, proceed to "Selecting the Model".

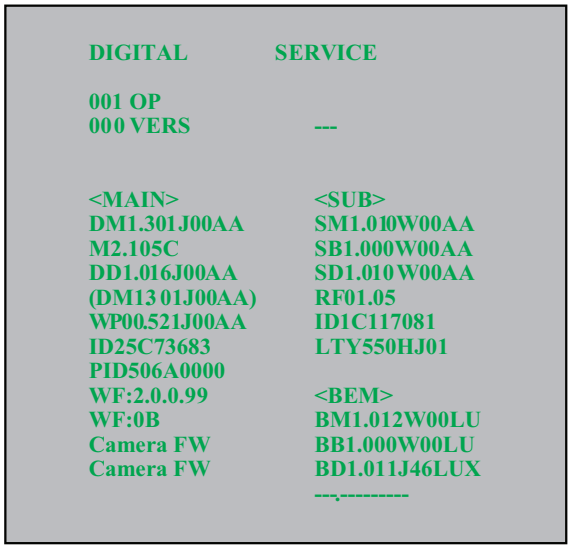
2-2-2. SELECTING THE MODEL

After replacing the BAL Board or LCD Panel, go into Service Mode to set the Model data value.

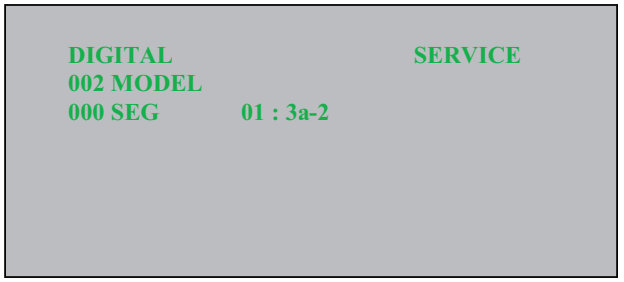
1. TV must be in standby mode. (Power off).
2. Access Service Mode.
   Press the following buttons on the Remote Commander within a second of each other:

DISPLAY → Channel 5 → Volume + → POWER

3. Display the **DIGITAL Service Menu**.
   NOTE: There are 3 Service Menus for this model, DIGITAL, CHASSIS, and SUB. If the DIGITAL Service Menu is not displayed, press **JUMP** or **OPTIONS** on the Remote Commander.

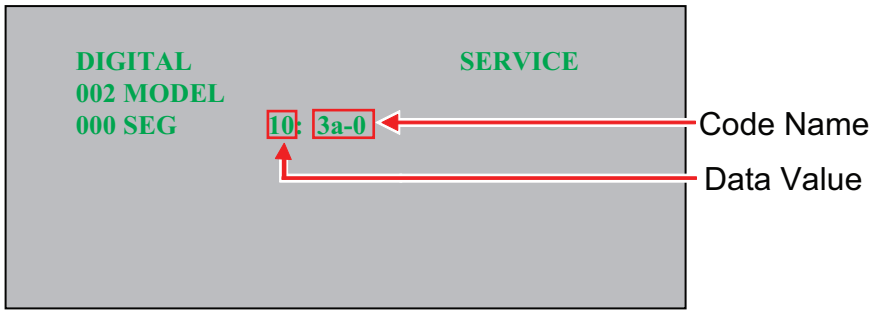


4. Press 2 to move to the **002 MODEL** (Next) category.



5. Using the table, press 3 to increase the data value or 6 to decrease the data value, to match the model of the TV.

Chassis	Model Name	Data Value	Code Name
AZ1-L	KDL-32EX707	10	3a-0
AZ1-L	KDL-40EX707	10	3a-0
AZ1-L	KDL-46EX707	10	3a-0
AZ1-L	KDL-52EX707	10	3a-0

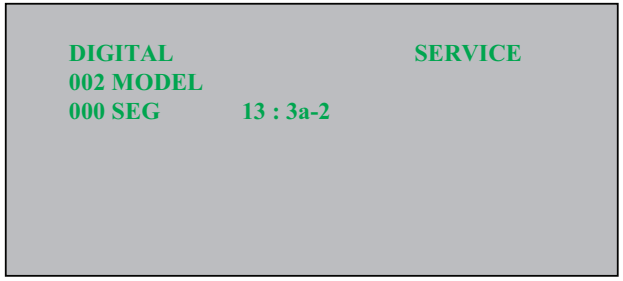


6. Proceed to “Selecting the Destination”.

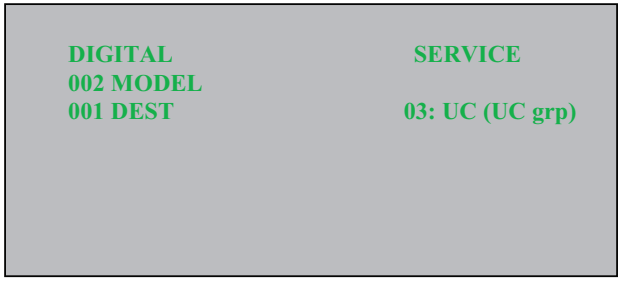
2-2-3. SELECTING THE DESTINATION

After replacing the BAL Board or the LCD Panel, the destination location must be set.

CAUTION: Selecting the incorrect destination may requiring replacing the BAL Board.

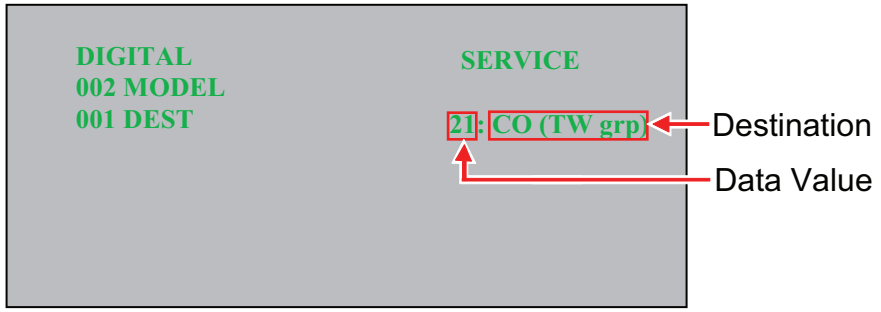


7. Press [1] to move to "**001 DEST**" sub Category.



8. Using the table, press [3] to increase the data value or [6] to decrease the data value, to select the destination of the TV.

GROUP	DESTINATION CODE	DATA VALUE	DESTINATION
TW grp	TW	6	TAIWAN
	CO	21	COLOMBIA



CAUTION: Verify the DESTINATION is set correctly before proceeding to the next step. If another destination Data Value is selected, it may possibly corrupt the software which would require a BAL Board replacement.

9. After verifying the correct destination data value displays, press [0] to save (Write) the changes.
10. Exit Service Mode by pressing [HOME] or turn the TV power off.
11. Proceed to "Verifying the Model and Panel Information".

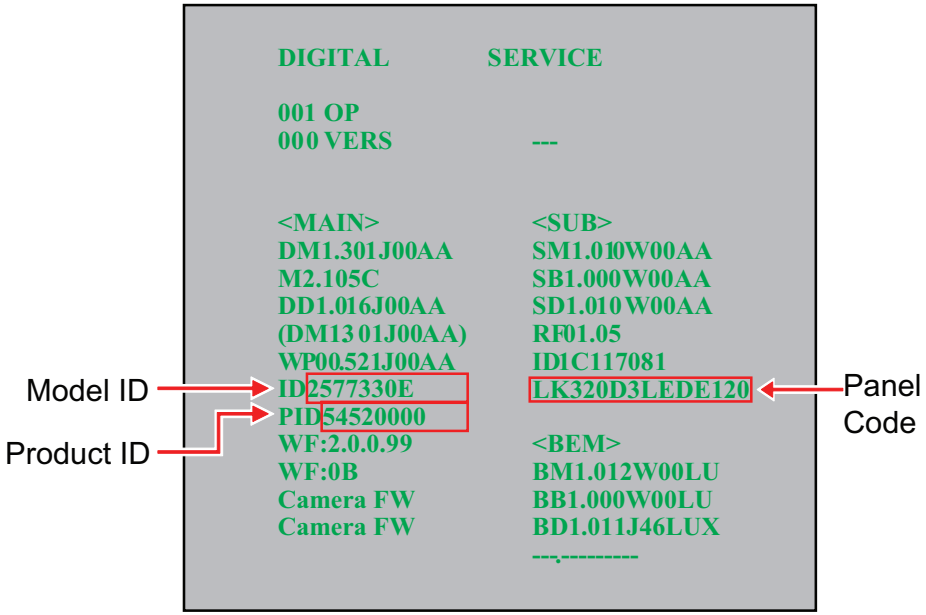
2-2-4. VERIFYING THE MODEL AND PANEL INFORMATION

After saving the changes to the service data, verify the information.

1. TV must be in standby mode. (Power off).
2. Access Service Mode.
   Press the following buttons on the Remote Commander within a second of each other:

[DISPLAY] → Channel [5] → Volume [+] → [POWER]

3. Display the **DIGITAL Service Menu**.
   NOTE: There are 3 Service Menus for this model, DIGITAL, CHASSIS, and SUB. If the DIGITAL Service Menu is not displayed, press [JUMP] or [OPTIONS] on the Remote Commander.



4. Using the table, verify the Model ID and the Product ID match the information in the Service Menu.

Model Name	MoDEl ID	Product ID	Panel ID	Code Name
KDL-32EX707	2577330E	54520000	LK320D3LEDE120	3a-0
KDL-32EX707	2577330E	54520000	LK315D3LA4S	3a-0
KDL-32EX707	2577330E	54520000	LK320D3LEDE120	3a-0
KDL-32EX707	2577330E	54520000	LK315D3LA4S	3a-0
KDL-40EX707	2577331B	54520000	LK400D3LEDE120	3a-0
KDL-40EX707	2577331B	54520000	LK400D3LA4S	3a-0
KDL-40EX707	2577331B	54520000	LK400D3LA4T	3a-0
KDL-40EX707	2577331B	54520000	LK400D3LEDE120	3a-0
KDL-40EX707	2577331B	54520000	LK400D3LA4S	3a-0
KDL-40EX707	2577331B	54520000	LK400D3LA4T	3a-0
KDL-46EX707	2577331C	54520000	LK460D3LEDE120	3a-0
KDL-46EX707	2577331C	54520000	LK460D3LA8S	3a-0
KDL-46EX707	2577331C	54520000	LK460D3LA8T	3a-0
KDL-46EX707	25773326	54520000	LTY(Z)460HJ02	3a-0
KDL-46EX707	2577331C	54520000	LK460D3LEDE120	3a-0
KDL-46EX707	2577331C	54520000	LK460D3LA8S	3a-0
KDL-46EX707	2577331C	54520000	LK460D3LA8T	3a-0
KDL-46EX707	25773326	54520000	LTY(Z)460HJ02	3a-0
KDL-52EX707	2577331D	54520000	LK520D3LEDE120	3a-0
KDL-52EX707	2577331D	54520000	LK520D3LB1S	3a-0
KDL-52EX707	2577331D	54520000	LK520D3LEDE120	3a-0
KDL-52EX707	2577331D	54520000	LK520D3LB1S	3a-0

5. Exit Service Mode by pressing HOME or turn the TV power off.
6. Proceed to “Reconnecting All Cables”.

2-2-5. RECONNECTING ALL CABLES

After completing the changes to service mode, reconnect all the cables (RF, External input, Ethernet, etc.) to the TV then verify the TV set picture. If necessary, proceed to “White Balance Adjustments”.

2-3. WHITE BALANCE ADJUSTMENTS

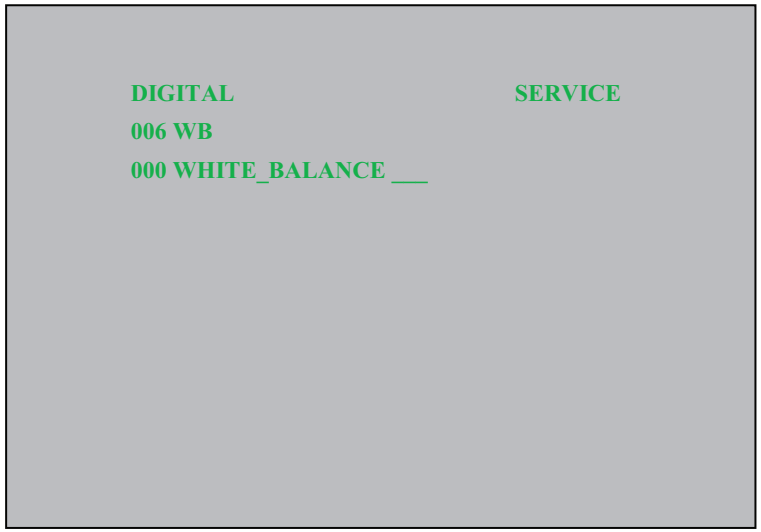
White Balance adjustment data is located on the Digital Service Menu.

1. TV must be in Standby Mode. (POWER off).
2. Press the following buttons on the Remote Commander within a second of each other:

DISPLAY → Channel 5 → Volume + → POWER

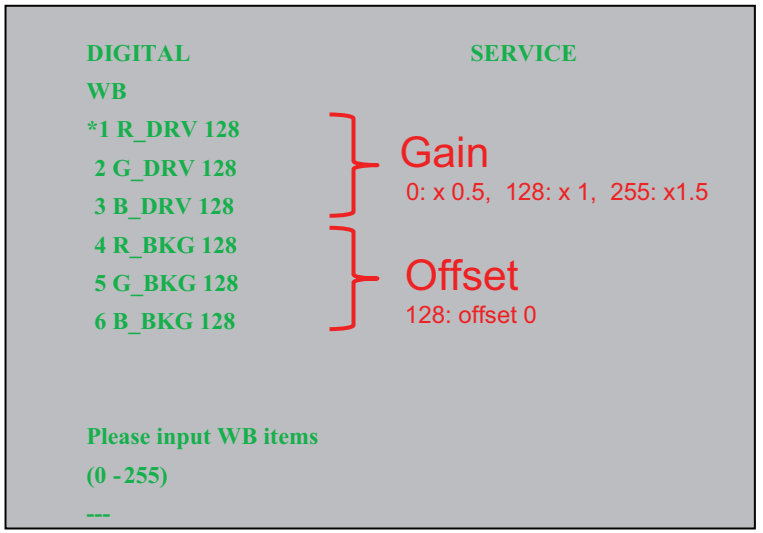
NOTE: There are 3 Service Menus for this model, DIGITAL, CHASSIS, and SUB. If the DIGITAL Service Menu is not displayed, press JUMP or OPTIONS on the Remote Commander.

3. Press 2 to until the "**006 WB**" Category displays.



4. Press 0 to enter White Balance Adjustment mode.

5. To select the White Balance Adjustment setting that needs to be changed, do the following:
   a. To select R_DRV, press 1.
   b. To select G_DRV, press 2.
   c. To select B_DRV, press 3.
   d. To select R_BKG, press 4.
   e To select G_BKG, press 5.
   f. To select B_BKG, press 6.
6. After selecting the White Balance setting, press ENT to display the edit screen.
   The screen displays a "Please input WB items" message.



7. Using the numbers buttons on the remote, enter the Data Value for the White Balance setting (value must be between 1 and 255).
8. Press ENT to WRITE (save) the changes.
9. To exit White Balance Adjustment, press JUMP or OPTIONS

2-4. RESETTING THE TV TO FACTORY CONDITION

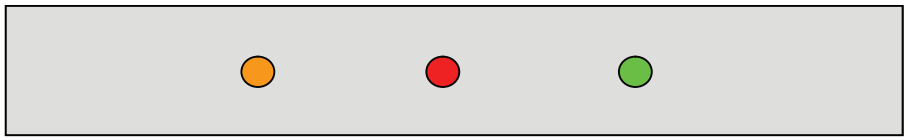
Use the following instructions to restore the User Adjustments and Channel Memory settings to the preset factory conditions.

1. While holding down the ⏏ on the Remote Commander, press the POWER button on the TV Switch Unit of the set.

   The set restarts and displays the Initial Setup screen. This may take several minutes.

2-4-1. RESETTING THE TV TO FACTORY CONDITION USING SERVICE MODE

1. TV must be in Standby Mode. (POWER off).
2. Press the following buttons on the Remote Commander within a second of each other:
   DISPLAY → Channel 5 → Volume + → POWER.
3. If necessary, press **JUMP** or **OPTIONS** to go to DIGITAL mode.
4. Press 8.
   "SERVICE" changes to green RST.
5. Press **MUTING**.
   RST executes the command and displays EXE.
6. Press 0 .
   EXE-RST displays green, then red indicating the TV is writing the data.
7. When the process is complete the green SERVICE text displays and the LED display as shown below:

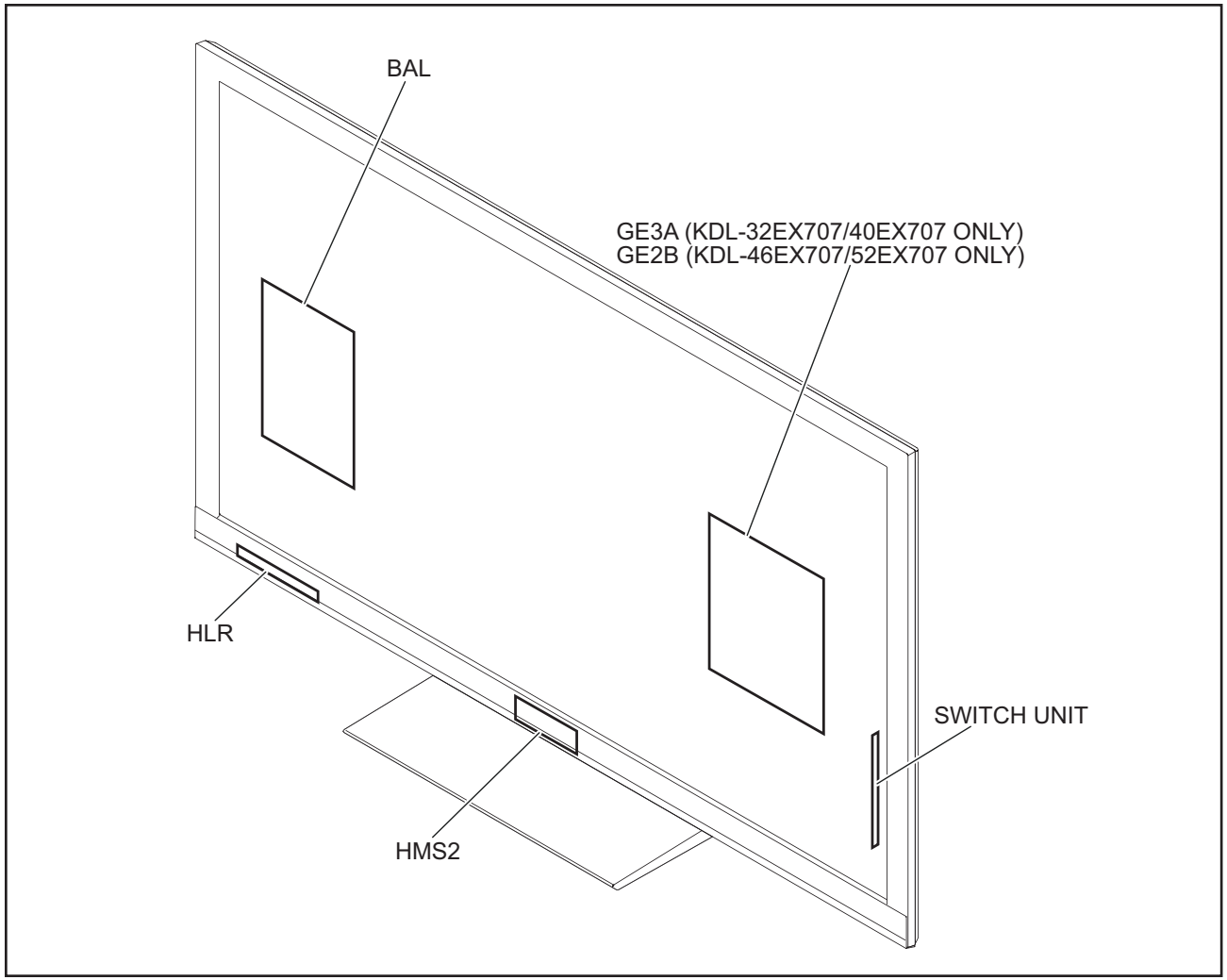


TIMER Standby POWER

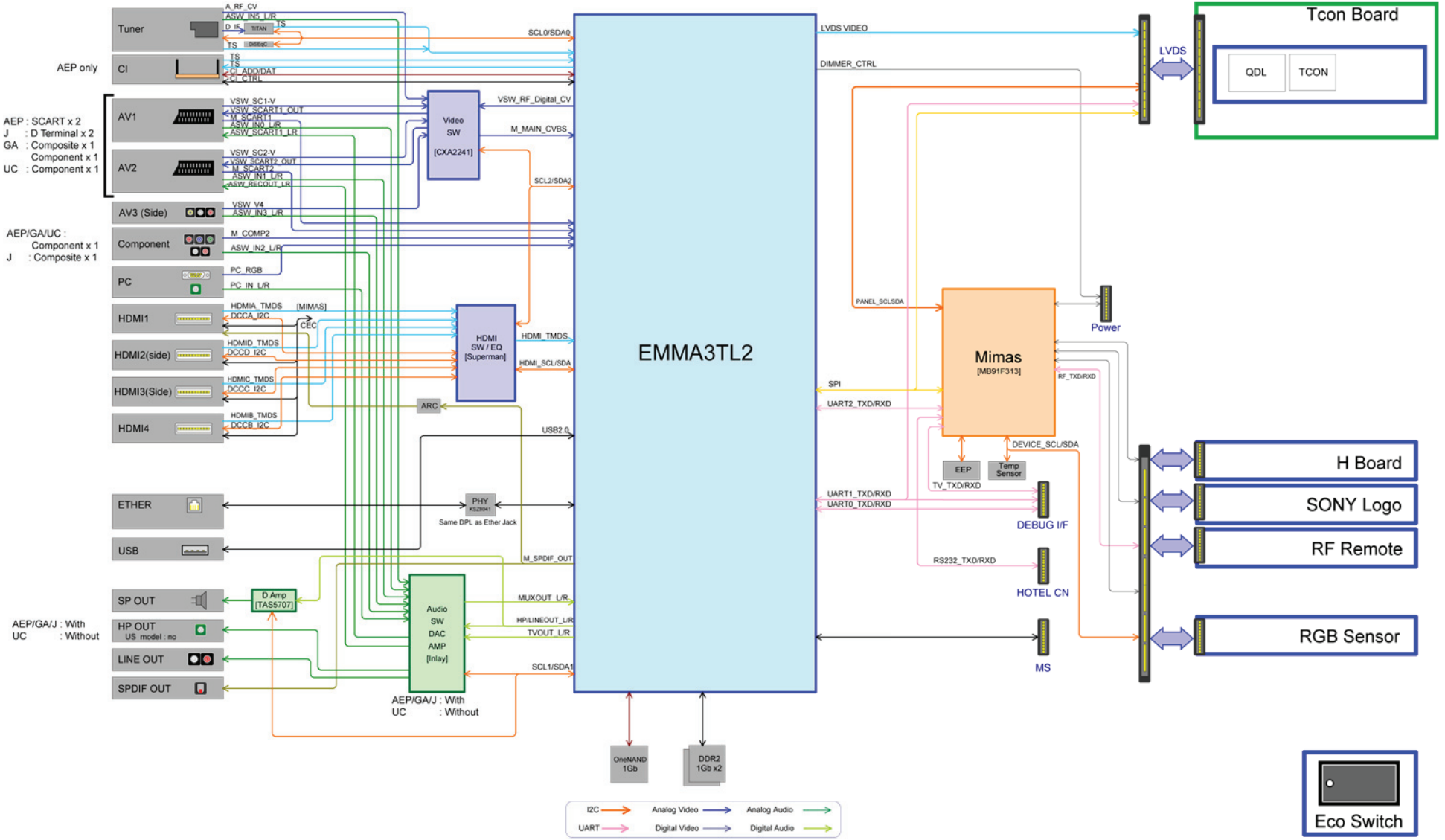
8. Cycle AC Power (Unplug and Plug AC Cord from the AC Outlet).
9. The set restarts and displays the Initial Setup screen. This may take several minutes.

SEC 3. DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION



3-2. BLOCK DIAGRAM



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